

REMARKS

Reconsideration in view of the foregoing amendments and following remarks is respectfully requested.

Claims 21, 46-48, 52-54, 58-68 and 71-73 are drawn to a thrombectomy device and system. Independent claims 21, 52 and 68 have been amended to add structural language to overcome the prior art rejections cited by Examiner. All pending claims should now be allowable. No new matter has been introduced.

Examiner states that claims 21, 46-48, 52-54, 58-68 and 71-73 are anticipated by Drasler WO 94/10917, and further refers to FIGS. 1, 9 and 14. Examiner is incorrect. While there are similarities between the disclosures, Drasler WO 94/10917 lacks the outflow orifices of the present invention. Specifically, Examiner cites item 226 of FIGS. 9 and 14 as reading on the outflow orifice of the present invention. This is incorrect, both structurally and functionally.

Structural Differences. Close examination of FIG. 9 reveals that item 226 is an orifice for passage of saline or high pressure liquid from manifold space 240 out into the body vessel. Manifold space 240 is supplied with saline or high pressure liquid from high pressure hypo tube 214 (analogous to the first tube or high pressure tubular means of the present invention) by flow through opening 232 and through the three stages of the manifolded tip 204 before being expelled through side orifices 226, 228 and 230. Therefore, item 226 (and 228 and 230) passes saline or high pressure fluid from high pressure hypo tube 214 (i.e., first tube) only, and does not pass fluid from effluent evacuation lumen 216 (i.e., second tube) into the body vessel as in the present invention.

In summary, Drasler WO 94/10917 has fluid passing from the first tube (high pressure tube) through side orifices into the body vessel, and does not have fluid passing from the second tube (effluent evacuation or lower pressure tube) through side orifices into the body vessel. In contrast, the present invention has just the opposite, having fluid passing from the second tube (effluent evacuation or lower pressure tube, including entrained blood or other fluid) through outflow orifices into the body vessel, and does not have fluid passing from the first tube (high pressure) through side orifices into the body vessel. Thus, there are significant structural differences between the present invention and the prior art.

Functional Differences. Drasler WO 94/10917 has radial jet(s) such as those shown in FIGS. 9, 13 and 14 as jets 250, 251 and 252 which emanate from orifices 226, 228 and 230. These jets, however, are different from the cross stream jet(s) 82 emanating from outflow orifice(s) 32 shown in FIGS. 5 and 6 of the present application. In Drasler WO 94/10917 the radial jet(s) are composed entirely of fluid from the first passage; referring to FIGS. 9-13 and the corresponding description on page 21, line 27, through page 22, line 24, fluid flows from hypo tube 214 through opening 232, manifold spaces 236, 238 and 240 and flow resistance narrowings 242, and finally exits through side holes 226-230 as radial jets 250-252. The radial jets of Drasler WO 94/10917, therefore, are very limited by the amount of fluid which can be supplied through hypo tube 214 (which acts as the first passage, or first tubular means in that case). In contrast, the outflow orifices of the present invention, when combined with the inflow orifices of the present invention, can provide a much greater flow of fluid

through the inflow and the outflow jets; page 32, lines 23-25, describes the flow rate of up to 20 times that of the saline exiting from the jet emanator. A much greater amount of entrained fluid is drawn in through the inflow orifice(s) and exit through the outflow orifice(s) as cross stream jet(s), providing much improved fluid recirculation and much greater effectiveness on organized mural thrombus, in a simple and efficient manner. Thus, there are significant functional difference between the present invention and the prior art, resulting from the significant structural differences.

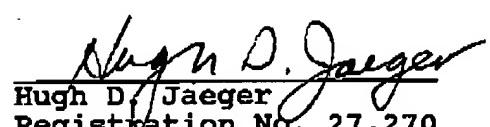
Conclusion. Since there are no outflow means or orifices which communicate from the second passage of the device of Drasler WO 94/10917 and this is a key feature and teaching of the present invention, Applicants contend that independent claims 21, 52 and 68 (which set forth outflow means or at least one outflow orifice in said second tube, the lower pressure or exhaust tube) and corresponding dependent claims are indeed patentably distinct from those of Drasler WO 94/10917 which sets forth radial jet(s) which emanate (through passages, restrictions, and openings) from the first (high pressure supply) tube. The unique features, structures, and function of the present invention as claimed are not anticipated by Drasler WO 94/10917. Applicants, therefore, request reconsideration of claims 21, 46-48, 52-54, 58-68 and 71-73.

If there are any further issues yet to be resolved to advance the prosecution of this patent application to issue, the Examiner is requested to telephone the undersigned counsel.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,

HUGH D. JAEGER, P.A.


Hugh D. Jaeger
Registration No. 27,270
1000 Superior Blvd., Suite 302
Wayzata, MN 55391-1873
Telephone: 952-475-1880
Facsimile: 952-475-2930

02/23/2004

DOC\PLEAD\PL4433